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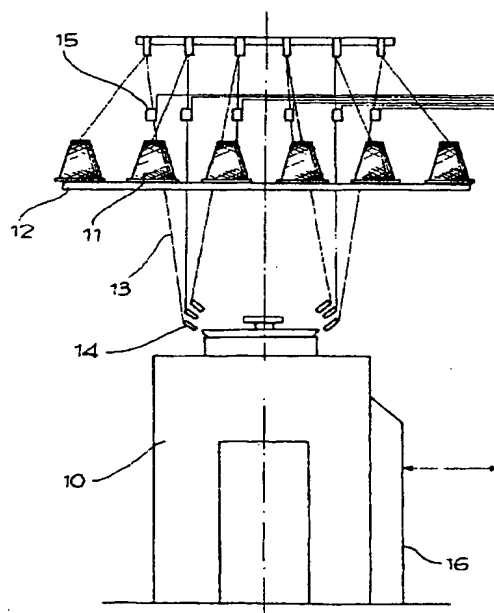
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(54) **Continuous measurement and control method for the tension and/or running of adjacent yarns in knitting machines**

(57) The invention concerns an automatic and continuous measurement and control method of the tension and/or running of the yarns (13) fed into knitting machines. It consists of permanently placing, along the route of each yarn (13) towards the machine a device (15) for measuring the tension and/or running of the yarn, of connecting the devices (15) to a management computer (16), programmed to recognise, display and process the reading data coming from each device (15) and of the issuing by the computer (16) of correction signals for the tension and/or running values of every yarn at every machine supply station and/or of the knitting in progress, when these values go beyond the prefixed limits.



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EUROPEAN SEARCH REPORT

Application Number
EP 01 83 0362

DOCUMENTS CONSIDERED TO BE RELEVANT				
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)	
X	EP 0 489 307 A (INT TRADING SRL) 10 June 1992 (1992-06-10) * column 5, line 57 - column 6, line 51; claims 1,6 *	1-3	D04B15/48	
Y	* column 1, line 5-9 *	4		
X	GB 1 584 259 A (IRO AB) 11 February 1981 (1981-02-11) * page 3, line 104 - page 4, line 34; claims 1,13; figures 12,13 *	1		
Y	* page 1, line 35-47 *	3		
Y	* page 6, line 125 - page 7, line 2 *	4		
X	US 4 821 199 A (KUEHNERT GOTTFRIED) 11 April 1989 (1989-04-11) * column 4, line 1-52; claim 1 *	1		
Y	* column 3, line 21-25 *	3,4		
A	US 4 673 139 A (MEMMINGER GUSTAV ET AL) 16 June 1987 (1987-06-16) * column 4, line 38 - column 5, line 59; claim 1; figure 2 *			
				TECHNICAL FIELDS SEARCHED (Int.Cl.7)
				D04B
The present search report has been drawn up for all claims				
Place of search MUNICH		Date of completion of the search 7 December 2001	Examiner Sterle, D	
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document				

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07-12-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0489307 A	10-06-1992	IT 1243970 B EP 0489307 A1	28-06-1994 10-06-1992
GB 1584259 A	11-02-1981	CH 623088 A5 DD 132086 A5 DE 2736416 A1 ES 461634 A1 FR 2362228 A1 IT 1082281 B JP 1465734 C JP 53045447 A JP 63008225 B US 4199965 A	15-05-1981 23-08-1978 23-02-1978 01-12-1978 17-03-1978 21-05-1985 10-11-1988 24-04-1978 22-02-1988 29-04-1980
US 4821199 A	11-04-1989	DE 3609719 A1 DE 3769686 D1 EP 0240799 A1 SU 1674697 A3	01-10-1987 06-06-1991 14-10-1987 30-08-1991
US 4673139 A	16-06-1987	DE 3429207 A1 DD 236558 A5 ES 545951 D0 ES 8609144 A1 GB 2162971 A ,B IT 1182557 B JP 2012865 B JP 61051466 A SU 1431683 A3	20-02-1986 11-06-1986 16-07-1986 16-12-1986 12-02-1986 05-10-1987 28-03-1990 13-03-1986 15-10-1988

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